The non-fuel and non-atomic mineral sector have been thrown open to private investment and therefore commercial exploitation take place as per economic viability of the mineral concerned. There has been no reports of financial crunch in this area.

**Wind power capacity in India**

854. SHRI K. RAMA MOHANA RAO: Will the Minister of NON-CONVENTIONAL ENERGY SOURCES be pleased to state:

(a) the wind power capacity in India.

(b) the policy of the Government to encourage exploration of this avenue by 2007; and

(c) the role of Indian Wind Energy Association in this regard?

THE MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI M. KANNAPPAN): (a) A wind power capacity aggregating 2074 MW has been installed so far in the country.

(b) The gross wind power potential in the country has been estimated at about 45,000 MW. The technical potential, which can be tapped at present is, however, limited to about 13,390 MW. A wind power capacity addition of 1500 MW is envisaged during the 10th Plan.

(c) The Indian Wind Energy Association is one among the several wind energy associations involved in wind power related issues in the country. However, only the Centre for Wind Energy Technology, Chennai has been implementing the Wind Resource Assessment Programme of the Government in association with the State Nodal Agencies.

**Creating non-conventional energy Sources**

855. SHRI RAMACHANDRA KHUNTIA: Will the Minister of NON-CONVENTIONAL ENERGY SOURCES be pleased to state:

(a) whether Government is giving special preference for creating Non-Conventional Energy Sources in every State, if so, the details thereof State-wise;

(b) whether Non–conventional Energy Sources are economical and less expensive; and

(c) whether it could reach the remote areas?

THE MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI M. KANNAPPAN): (a) The Government is promoting various programmes of Non-conventional Energy Sources such as solar, wind, biomass and small hydro throughout the country and provides various financial and fiscal incentives. State-wise details of comulative achievements under the various programmes as on 31-3-2003 are given in the Statement enclosed. (*See* below)

(b) No, Sir. On average, non-conventional energy sources are less economical and more expensive when compared with conventional energy. However, non-conventional energy applications could prove to be more economical in remote areas, where grid electricity is not likely to reach.

(c) Yes, Sir. A target of electrifying all remote villages, numbering around 18,000 in the country by 2007 and providing electricity to all households in such villages by 2012 through various non-conventional energy sources has been set. About 1400 such remote villages have been electrified so far through various non-conventional energy sources.

***Statement***

*Creating Non-conventional Energy Sources*

State-wise cumulative achievements made under various programmes as on 31-03-2003

| Sl. No. | States/UT | Solar Power (kWp) | Wind Power (MW) | SHP (MW) | Biomass Power (MW) | Biomass Gasifier (kW) | Energy from Wastes (MW) |
|---|---|---|---|---|---|---|---|
| 1. | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1. | Andhra Pradesh | 275 | 92.60 | 155.61 | 160.05 | 15384 | 11.95 |
| 2. | Arunachal Pradesh | 0 | 0.00 | 32.10 | 0.00 | 180 | |
| 3. | Assam | 0 | 0.00 | 2.00 | 0.00 | 123 | |
| 4. | Bihar | 0 | 0.00 | 44.90 | 0.00 | 20 | |
| 5. | Chhatisgarh | | | 1.00 | 11.00 | 500 | |
| 6. | Goa | 0 | 0.00 | 0.05 | 0.00 | 22 | |
| 7. | Gujarat | 0 | 173.10 | 7.00 | 0.50 | 11361 | 2.45 |
| 8. | Haryana | 0 | 0.00 | 48.30 | 4.00 | 964 | |
| 9. | Himachal Pradesh | 0 | 0.00 | 93.24 | 0.00 | 7 | |
| 10. | Jammu & Kashmir | 0 | 0.00 | 102.24 | 0.00 | 120 | |
| 11. | Jharkhand | | | 4.05 | 0.00 | 0 | |
| 12. | Karnataka | 30 | 124.30 | 182.38 | 109.38 | 4499 | 1.00 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| 13. | Kerala | 25 | 2.00 | 69.52 | 0.00 | 725 | |
| 14. | Madhya Pradesh | 339 | 22.60 | 38.96 | 0.00 | 4529 | 2.70 |
| 15. | Maharashtra | 185 | 401.20 | 206.33 | 24.50 | 3823 | 1.90 |
| 16. | Manipur | 0 | 0.00 | 5.45 | 0.00 | 0 | |
| 17. | Meghalaya | 0 | 0.00 | 30.71 | 0.00 | 0 | |
| 18. | Mizoram | 0 | 0.00 | 14.76 | 0.00 | 200 | |
| 19. | Nagaland | 0 | 0.00 | 20.47 | 0.00 | 0 | |
| 20. | Orissa | 0 | 0.00 | 7.30 | 0.00 | 72 | |
| 21. | Punjab | 250 | 0.00 | 107.40 | 22.00 | 700 | 0.75 |
| 22. | Rajasthan | 50 | 60.70 | 23.85 | 0.00 | 218 | |
| 23. | Sikkim | 0 | 0.00 | 35.60 | 0.00 | 0 | |
| 24. | Tamil Nadu | 211 | 990.30 | 76.40 | 106.00 | 2653 | 1.98 |
| 25. | Tripura | 0 | 0.00 | 16.01 | 0.00 | 1000 | |
| 26. | Uttar Pradesh | 325 | 0.00 | 21.50 | 46.50 | 2746 | 3.00 |
| 27. | Uttaranchal | | | 64.60 | | 0 | |
| 28. | West Bengal | 50 | 1.10 | 92.28 | 0.00 | 2965 | |
| 29. | Andaman & Nicobar | 50 | 0.00 | 5.25 | 0.00 | 167 | |
| 30. | Chandigarh | 50 | 0.00 | 0.00 | 0.00 | 0 | |
| 31. | Dadar & Nagar Haveli | 0 | 0.00 | 0.00 | 0.00 | 0 | |
| 32. | Daman & Diu | 0 | 0.00 | 0.00 | 0.00 | 0 | |
| 33. | Delhi | 0 | 0.00 | 0.00 | 0.00 | 74 | |
| 34. | Lakshwadeep | 650 | 0.00 | 0.00 | 0.00 | 0 | |
| 35. | Pondicherry | 0 | 0.00 | 0.00 | 0.00 | 0 | |
| 36. | Others | 0 | 1.60 | 0.00 | 0.00 | 318 | |
| | TOTAL | 2490 | 1869.50 | 1509.24 | 483.93 | 53370 | 25.73 |

SHP=Small Hydro Power; U&I=Urban and Industrial Wastes programme; MW=Mega Watt; kWp=kilowatt peak;

*State-wise cumulative achievements made under various programmes as on 31-3-2003*

| Sl. No. | STATES/UT | Biogas Plants (Nos.) | IBP/CBP NBP (Nos.) | Water Pumping WIND MILLS (Nos.) | Aerogen. Hybrid System (KW) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1. | Andhra Pradesh | 354334 | 132 | 5 | 16 |
| 2. | Arunachal Pradesh | 1721 | 0 | 0 | 0 |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| 3. | Assam | 53769 | 2 | 3 | 6 |
| 4. | Bihar | 123963 | 40 | 42 | 0 |
| 5. | Chhatisgarh | 8078 | 8 | | |
| 6. | Goa | 3428 | 21 | 0 | 14.7 |
| 7. | Gujarat | 359047 | 165 | 432 | 0 |
| 8. | Haryana | 45414 | 59 | 0 | 0 |
| 9. | Himachal Pradesh | 44194 | 8 | 0 | 0 |
| 10. | Jammu & Kashmir | 2013 | 4 | 0 | 0 |
| 11. | Jharkhand | 925 | 4 | | |
| 12. | Karnataka | 365243 | 63 | 20 | 7.75 |
| 13. | Kerala | 90823 | 163 | 79 | 8 |
| 14. | Madhya Pradesh | 216970 | 120 | 0 | 0 |
| 15. | Maharashtra | 687657 | 484 | 26 | 123.14 |
| 16. | Manipur | 2026 | 4 | 0 | 0 |
| 17. | Meghalaya | 2671 | 4 | 0 | 0 |
| 18. | Mizoram | 3015 | 0 | 0 | 0 |
| 19. | Nagaland | 1792 | 7 | 0 | 0 |
| 20. | Orissa | 198692 | 45 | 0 | 0 |
| 21. | Punjab | 72279 | 668 | 0 | 0 |
| 22. | Rajasthan | 66735 | 71 | 222 | 4 |
| 23. | Sikkim | 4125 | 0 | 0 | 10 |
| 24. | Tamil Nadu | 203808 | 289 | 52 | 24.5 |
| 25. | Tripura | 2069 | 0 | 0 | 0 |
| 26. | Uttar Pradesh | 382784 | 1366 | 0 | 0 |
| 27. | Uttaranchal | 2912 | 49 | | |
| 28. | West Bengal | 220969 | 68 | 0 | 0 |
| 29. | Andaman & Nicobar | 137 | 0 | 2 | 0 |
| 30. | Chandigarh | 97 | 0 | 0 | 0 |
| 31. | Dadar & Nagar Haveli | 169 | 0 | 0 | 0 |
| 32. | Daman & Diu | 0 | 0 | 0 | 0 |
| 33. | Delhi | 676 | 56 | 0 | 0 |
| 34. | Lakshadweep | 0 | 0 | 0 | 0 |
| 35. | Pondicherry | 573 | 1 | 0 | 5 |
| 36. | Others | 0 | 0 | 0 | 0 |
| | TOTAL | 3523108 | 3901 | 883 | 219.09 |

IBP/CBP/NBP = Institutional/Community/Night Soil based Biogas Plants;
IREP = Integrated Rural Energy Programme; Kw = Kilowatt

*State-wise cumulative achievements made under various programme as on 31-03-2003*

| Sl. No. | STATES/UT | SOLAR PHOTOVOLTAIC As on 31-3-2003 | | | | SPV Pumps | Solar Cooker |
|---|---|---|---|---|---|---|---|
| | | SLS | HLS | SL | PP | (Nos) | (Nos) |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1. | Andhra Pradesh | 3648 | 1161 | 32152 | 21.656 | 603 | 11985 |
| 2. | Arunachal Pradesh | 738 | 750 | 4937 | 7.9 | 0 | 530 |
| 3. | Assam | 98 | 2787 | 541 | 7.5 | 45 | 80 |
| 4. | Bihar | 490 | 679 | 28275 | 0 | 128 | 450 |
| 5. | Chhattisgarh | 1237 | 3612 | 3192 | 0 | 5 | 37000 |
| 6. | Goa | 69 | 51 | 443 | 1.72 | 15 | 1500 |
| 7. | Gujarat | 1764 | 2552 | 31603 | 24.9 | 42 | 70410 |
| 8. | Haryana | 612 | 9666 | 32727 | 24.2 | 270 | 20615 |
| 9. | Himachal Pradesh | 1494 | 11948 | 20697 | 1.5 | 6 | 27280 |
| 10. | Jammu & Kashmir | 389 | 15317 | 9202 | 40 | 18 | 345 |
| 11. | Jharkhand | 135 | 102 | 16374 | 0 | 3 | 280 |
| 12. | Karnataka | 1009 | 6135 | 7334 | 18.91 | 337 | 250 |
| 13. | Kerala | 1090 | 18679 | 39681 | 44.7 | 749 | 195 |
| 14. | Madhya Pradesh | 5714 | 159 | 8564 | 22.4 | 76 | 141600 |
| 15. | Maharashtra | 3388 | 721 | 8683 | 6.44 | 189 | 56635 |
| 16. | Manipur | 370 | 650 | 3883 | 11 | 12 | 365 |
| 17. | Meghalaya | 593 | 540 | 4875 | 42 | 5 | 1165 |
| 18. | Mizoram | 315 | 1645 | 5812 | 0 | 37 | 110 |
| 19. | Nagaland | 271 | 143 | 95 | 6 | 0 | 0 |
| 20. | Orissa | 5665 | 2937 | 8795 | 36.52 | 4 | 3170 |
| 21. | Punjab | 1766 | 2870 | 14995 | 46 | 1580 | 22050 |
| 22. | Rajasthan | 6473 | 34864 | 4716 | 25.8 | 268 | 36600 |
| 23. | Sikkim | 271 | 143 | 95 | 6 | 0 | 20 |
| 24. | Tamil Nadu | 2272 | 471 | 12818 | 26 | 760 | 1355 |
| 25. | Tripura | 760 | 2238 | 20805 | 24.57 | 10 | 80 |
| 26. | Uttar Pradesh | 550 | 50938 | 52815 | 129.2 | 229 | 45310 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| 27. | Uttaranchal | 250 | 32204 | 27027 | 80.03 | 9 | 7090 |
| 28. | West Bengal | 1461 | 26890 | 3662 | 475 | 48 | 7930 |
| 29. | Andaman & Nicobar | 358 | 405 | 796 | 167 | 25 | 60 |
| 30. | Chandigarh | 0 | 275 | 1675 | 0 | 14 | 1525 |
| 31. | Dadar & Nagar Haveli | 0 | 0 | 0 | 0 | 1 | 80 |
| 32. | Daman & Diu | 0 | 0 | 0 | 0 | 0 | 0 |
| 33. | Delhi | 301 | 0 | 4753 | 15 | 84 | 27990 |
| 34. | Lakshadweep | 0 | 0 | 0 | 85 | 0 | 0 |
| 35. | Pondicherry | 62 | 13 | 637 | 0 | 21 | 90 |
| 36. | Others | 0 | 3295 | 28197 | 0 | 18 | 16685 |
| | TOTAL | 43613 | 234840 | 4408561 | 396.946 | 5611 | 540830 |

SLS = Street Lighting System; HLS = Home Lighting System;
SL = Solar Lanterns; PP = Power Plants; SPV = Solar Photovoltaic;
BOV = Battery Operated Vehicles

**Subsidy to Solar Home Lighting System**

856. SHRI K.B. KRISHNA MURTHY: Will the Minister of NON-CONVENTIONAL ENERGY SOURCES be pleased to state:

(a) whether Government is providing subsidy to the Solar Home Lighting System;

(b) if, so the target allotted to Karnataka during 2002-2003 and 2003–2004.

(c) what is the achievement; and

(d) the amount of subsidy released to Karnataka for Solar Home Lighting System and also Solar Street Lighting System during 2002-2003 and 2003-2004 ?

THE MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI M. KANNAPPAN) : (a) Yes, Sir. The Ministry of Non-Conventional Energy Sources (MNES), Government of India has been providing subsidy on five different models of Solar Home Systems. The extent of the subsidy depends on the model of the system and the location where the system is installed.